

TECHNICAL MEMORANDUM**Utah Coal Regulatory Program**

November 10, 2008

TO: Internal File

THRU: Wayne Western, Team Lead *W H W*

FROM: Priscilla Burton, CPSSc, Environmental Scientist, III. *PWB by SAS*

SUBJECT: Bear Canyon Degas Wells, West Ridge Mine, C/007/0041, West Ridge Resources, Inc., Task ID #3077 second review.

SUMMARY:

An amendment to drill three degas wells and install four compressors in T 14 S, R 13 E, Section 3 was received at the Salt Lake DOGM offices on October 24, 2008, along with a request for expedited review. Salt Lake reviewers were briefed at the site on October 16, 2008. I made a courtesy visit to the site on October 21, 2008 (Inspection Rpt. # 1813)

Three degas wells will be constructed from a single pad on SITLA land that was acquired by the State of Utah through the 1998 Schools and Federal Land Exchange Act, P.L. 105-335 (see email from John Blake, dated October 15, 2008). SITLA acquired coal lease ML49287 in 2004. The degas well construction is described in App. 5-14.

I conclude that the right fork of the Bear Canyon road does not meet the R645-100 definition of a public road along its length in Sections 10 and 3 of T. 14 S, R. 13 E. In accordance with R645-301-521.170, the construction and maintenance of this road to the drill pad (and its retention for the post mining land use (requested by SITLA, App. 4-8 of the application) should be under DOGM permit.

As noted below, four deficiencies remain unresolved with the amendment. Locating the Bear Canyon road on Map 1-0 should be addressed very quickly. DOGM management is working on a resolution to the deficiency concerning permitting of the right fork of Bear Canyon. The third and fourth deficiencies pertaining to the reclamation agreement and to the inclusion of soils laboratory data in the MRP, must be conditions of approval.

R645-301-115.300, The origin of the public access road should be identified on Map 1-0 in Section 15.

R645-301-521.170 and R645-301-527, The road constructed up the Right Fork of Bear Canyon should be included in the permit area.

R645-301-521 and R645-300-141, A legal description of the surface disturbed acreage should be provided and the reclamation agreement should be revised to include the disturbed acreage associated with the Bear Canyon degas well, which is isolated from the main facilities disturbance.

R645-301-223, The amendment acknowledges a lack of baseline laboratory soils analysis in Section R645-301-200 (pg. 2-1). Laboratory analysis of the three soil pedons should be provided within 90 days of approval.

TECHNICAL ANALYSIS:

GENERAL CONTENTS

IDENTIFICATION OF INTERESTS

Regulatory Reference: 30 CFR 773.22; 30 CFR 778.13; R645-301-112

Analysis:

This applicant changes the address of the Permittee from a P.O. Box in Price to P.O. Box 910; East Carbon, UT 84520. Ownership and control information in App. 1-7 remains unchanged.

Findings:

The information provided meets the requirements of R645-301-112.200.

RIGHT OF ENTRY

Regulatory Reference: 30 CFR 778.15; R645-301-114

Analysis:

Right of Entry to the surface lands for the Bear Canyon degas wells is provided by State coal lease ML-49287. The lease is included in the MRP, Appendix 1-16. The location of this lease and degas well is shown on Map 1-0.
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Findings

The information in the proposed amendment meets the requirements for Right of Entry.

VIOLATION INFORMATION

Regulatory Reference: 30 CFR 773.15(b); 30 CFR 773.23; 30 CFR 778.14; R645-300-132; R645-301-113

Analysis:

Violation in Appendix 1-2 was updated to October 2008 with this application.

Findings:

The information provided meets the requirements of the Regulations.

LEGAL DESCRIPTION AND STATUS OF UNSUITABILITY CLAIMS

Regulatory Reference: 30 CFR 778.16; 30 CFR 779.12(a); 30 CFR 779.24(a)(b)(c); R645-300-121.120; R645-301-112.800; R645-300-141; R645-301-115.

Analysis:

The degas well installation is within the existing permit area boundary shown on Map 1-0. The application does not change the status of unsuitability claims for the coal mining and reclamation operation.

The origin of the public access road should be identified on Map 1-0 in Section 15.

Findings

The available information does not meet the requirements of the Regulations.

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R645-301-115.300, The origin of the public access road should be identified on Map 1-0 in Section 15.

PERMIT TERM

Regulatory References: 30 CFR 778.17; R645-301-116.

Analysis:

The five year permit was last issued March 21, 2007. This amendment does not change the permit renewal dates.

Findings:

The information available meets the requirements of the Regulations.

PUBLIC NOTICE AND COMMENT

Regulatory References: 30 CFR 778.21; 30 CFR 773.13; R645-300-120; R645-301-117.200.

Analysis:

Certificates of Insurance are located in the General Chapter 1 Volume, App. 1-2. There is no change to this information with this application.

The lease area boundary currently encompasses 6,114.89 acres. This amendment adds 0.34 acres to the existing 29.06 acre disturbed area. This amendment is not considered a significant revision. In accordance with R645-303-227, public notice is not required.

Findings:

The information presented meets the requirements of the regulations.

ENVIRONMENTAL RESOURCE INFORMATION

Regulatory Reference: Pub. L 95-87 Sections 507(b), 508(a), and 516(b); 30 CFR 783., et. al.

PERMIT AREA

Regulatory Requirements: 30 CFR 783.12; R645-301-521.

Analysis:

After analysis of the right of way documents, I have concluded that the Bear Canyon road meets the definition of a public road along its length from its origin in Sec. 15 up the **left fork** of Bear Canyon in Sections 9 and 4 of T. 14 S, R. 13 E., but not up the right fork of Bear Canyon in Sections 10 and 3 of T. 14 S., R. 13 E. for the reasons listed below.

1. The road access to Bear Canyon runs across both BLM and SITLA lands. The BLM authorized a road in Bear Canyon in 1951 on the basis of an annual fee (see ROW documents in 2008/Incoming/email from Steve Rigby dated October 22, 2008). The County also claims this road as a public road under RS-2477 rules. The County is negotiating with the State to purchase a right of way across SITLA lands in perpetuity for this road (County Rd. 667). However, the County alignment for the right of way does not go up the right fork of Bear Canyon to the existing drill pad (across the NW1/4 of Sec 10 and into the SE 1/4 Sec 3). Neither does the 1951 BLM right of way describe the road up the right fork of Bear Canyon.
2. The road into the right fork of Bear Canyon in Section 10 and 3 would not be considered "public" by the R645-100 definition. Although the road was shown on the BLM plat map, associated with federal lease U-01756 (Plat is attached to #Insp. Rpt. 1813), the BLM has since relinquished the portions of this road to SITLA, including the portion in the right fork of Bear Canyon. In accordance with R850-41-600 through R645-41-800, SITLA routinely requires an annual fee by user groups (i.e. OHV clubs, bicycle clubs etc.) for trail easements.
3. The fact that the public has made less than incidental use of this road was documented in 2005, when access by vehicle was impossible and the entire length of the right fork was hiked by Dave Shaver, Joe Helfrich, Steve Fluke and Steve Christensen in 2005 (personal communication from Steve Christensen).
4. The road travels the right fork of Bear Canyon for approximately a mile, crossing over BLM and SITLA land. The road dead ends on SITLA land at the exploration drill hole. There is no foot or ATV trail beyond this point. According to John Blake, there are no gas leases on SITLA land in Section 3 or Sec. 10 (1008/Incoming/0027.pdf).

I conclude that the right fork of the Bear Canyon road does not meet the R645-100 definition of a public road along its length in Sections 10 and 3 of T. 14 S, R. 13 E. In accordance with R645-301-521.170, the construction and maintenance of this road to the drill pad (and its retention for the post mining land use (requested by SITLA, App. 4-8 of the application) should

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be under DOGM permit. Retained roads are considered primary roads under R645-301-527.123 and all requirements of the primary road pertain.

The total disturbed acreage for the mine is 29.4 acres, including this 0.34 acre amendment for the Bear Canyon degas well (MRP, Sec. 116.100).

Table 1-4 provides a legal description of the permit area. This description was not updated with this application, since the degas well falls within the boundary of the existing State lease. A legal description of the disturbed area was not found in the MRP but is found in the reclamation agreement. An additional 0.34 acres associated with this degas well is isolated from the existing disturbance and should be included in the reclamation agreement.

Findings:

Information provided does not meet the requirements of the Regulations for permit area.

R645-301-521.170 and R645-301-527, The road constructed up the Right Fork of Bear Canyon should be included in the permit area.

R645-301-521 and R645-300-141, A legal description of the surface disturbed acreage should be provided and the reclamation agreement should be revised to include the disturbed acreage associated with the Bear Canyon degas well, which is isolated from the main facilities disturbance.

SOILS RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.21; 30 CFR 817.22; 30 CFR 817.200(c); 30 CFR 823; R645-301-220; R645-301-411.

Analysis:

The amendment acknowledges a lack of baseline laboratory soils analysis in Section R645-301-200 (pg. 2-1). Therefore, Division approval should include a condition that laboratory analysis of the soil horizons will be provided within 90 days, in accordance with R645-301-223.

The Bear Canyon degas well site is at the end of the road in the right fork of Bear Canyon. Elevation is approximately 7,200 ft. on a northwest facing foot slope. As shown on the proposed facility map, the slope rises about 30 ft horizontal per 20 ft vertical or 1.5h:1v. This steep slope is well vegetated with evergreen groundcover (*Pachistima*) and evergreen trees and shrubs (see photos in Images folder 10/21/08).

A soil survey of the proposed degas well site was completed on October 7, 2008 (App. 2-10 of the MRP and Attachment 2 of App. 5-14). Two soil pits and a cut face were utilized in the

soil survey and were observed during this site visit. The dark, rich, organic soil (mollic) layers were clearly visible. Buried topsoil horizons are a testament to the instability of the slopes above and also the basis for salvage of seventeen inches of soil.

Soil Survey information describes two soil series at the pad site: Aargard Series and Northorn series. Table 1 provides the soil taxonomic names which reflect the developed topsoil horizon, the accumulation of clay in the subsoil (argillic horizon), the very fine textures, accumulations of carbonate, and the cold soil temperatures associated with this soil. The areal extent of these soils are shown on the accompanying "Soil Pit Location Map" (App. 2-10). Soil profile field descriptions are included with the amendment.

Laboratory analysis of the soil horizons was not available at the time of this review, but will be provided as soon as they become available (R645-301-200, pg. 2-1). Field soil descriptions were not provided.

The Carbon County Order III Soil Survey places the Bear Canyon GVH in Map Unit 21, Croydon Loam which is in the High Mountain Loam grazing site. The NRCS projects that in a normal year production from a High Mountain Range sites may be 1,500-lbs/ac dry weight. In a favorable year the productivity would be expected to increase to 2,000-lbs/ac dry wt. The application does not include an assessment of productivity, however, Appendix 5-14, Attachment 4 describes 82.25% total living cover on the proposed GVH site, with 46% of this value composed of understory and 36.25% from overstory. The understory composition was composed 91.74% by woody plant species. Table 1 of Attachment 4 lists the species. A single grass, *Bromus carinatus* was found at the site, occupying 1% of the surface.

Findings:

Soil survey information is incomplete. **The following information should be obtained within 90 days of approval:**

R645-301-223, The amendment acknowledges a lack of baseline laboratory soils analysis in Section R645-301-200 (pg. 2-1). Laboratory analysis of the three soil pedons should be provided within 90 days of approval.

PRIME FARMLAND

Regulatory Reference: 30 CFR 785.16, 823; R645-301-221, -302-270.

Analysis:

The site is undeveloped rangeland at an elevation of 7,200 ft., on a steep slope. There is no prime farmland at this location.

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Findings:

The Division finds that there is no prime farmland at the location of the West Ridge Bear Canyon degas well site.

OPERATION PLAN

AIR POLLUTION CONTROL PLAN

Regulatory Reference: 30 CFR 784.26, 817.95; R645-301-244, -301-420.

Analysis:

The most current Air Quality Approval Order available in Appendix 4-5 of the MRP is dated January 14, 1999, DAQE -055-99. This AO is the most current (personal communication with Dave Shaver, 11/06/2008). Appendix 5-14, Chap. 4, pg. 11 describes water sprays for fugitive dust control on road surfaces at Bear Canyon GVH.

If the road is considered part of the permit area, the additional pad and road area must be included in correspondence with the Department of Air Quality and the AO updated as deemed appropriate by that agency.

Findings:

Information provided for the pad area meets the requirements for Air Quality information.

TOPSOIL AND SUBSOIL

Regulatory Reference: 30 CFR Sec. 817.22; R645-301-230.

Analysis:

The MRP meets the requirements of R645-301-230, because the Permittee provides a soil salvage and storage plan.

According to Map 1-0, revised 10/15/08, the Bear Canyon jeep trail is the access for the topsoil borrow area on SITLA lands. The jeep trail goes through the topsoil borrow area. Bill Barrett Corp. was widening the road to approximately 30 ft in this vicinity.

Topsoil Removal and Storage

Bear Canyon Gob Vent Hole

For the West Ridge Bear Canyon GVH pad, a cut slope of approximately 25 ft will be created. The existing pad will be widened by approximately 30 ft. to accommodate four compressor pumps. The pad will be 300 ft. long. Approximately Section R645-301-200 of the MRP describes a sixteen inch average soil salvage depth. A mine employee, familiar with the soil survey and salvage plan will be on site to direct the soil salvage. (Preferably, the soil scientist who conducted the soil survey.) The sixteen inch soil salvage depth over the 0.24 disturbed acres will produce approximately 514 cu yds of soil.

As described in R645-301-200, pg. 2-1, the soil storage area is located 0.1 miles down the road from the pad site. A proposed cross-section of the storage pile is provided on the Bear Canyon GVH Topsoil Storage Area map included in App. 2-10.

The topsoil stockpile will be left in a roughened state and seeded with the grass/forb mix listed in Table 3-3 of the MRP or the East Mountain final seed mix provided in Attachment 13 of App. 5-14. The East Mountain mix contains Triticale which produced excellent results in the first season on East Mountain. The East Mountain mix may be used on the topsoil stockpile if it is fresh (purchased in the fall of 2008).

Findings:

The information provided meets the requirements of R645-301-230 for topsoil and subsoil salvage.

RECLAMATION PLAN

POSTMINING LAND USES

Regulatory Reference: 30 CFR Sec. 784.15, 784.200, 785.16, 817.133; R645-301-412, -301-413, -301-414, -302-270, -302-271, -302-272, -302-273, -302-274, -302-275.

Analysis:

The existing land use is grazing, wildlife habitat, mining and recreation (MPR Section 411.110). Grazing allotments are shown on Plate 4-1. The Bear Canyon grazing allotment, administered by the BLM, includes the right fork of the Bear Canyon.

The Bear Canyon GVH is on SITLA surface. Appendix 4-8 includes correspondence from SITLA representatives with regard to the retention of the road during final reclamation. SITLA demands that the improved access to Section 10 and Section 3 in T. 14 S., R. 13 E. remain to support multiple post mining land uses, "including oil and gas leasing, coal and other minerals, industrial use and grazing," (letter from J. Randall Harden to Dave Shaver, October 22, 2008). Though there are no oil and gas leases on lands in the right fork of Bear Canyon (email from John Blake to Dave Shaver, dated October 15, 2008), Mr. Harden states

"Any upgrades to the road or maintenance performed on the road will remain under the jurisdiction of SITLA regardless of the duration or use by West Ridge. The existing road will remain in place and under SITLA's jurisdiction to support other land use activities even following the use and eventual reclamation of the gob vent hole installation. SITLA concurs that the gob vent hole installation facility is a coal mine related surface activity and should be under DOGM permit requirements. The existing road however will remain as a public use road where it exists on Trust lands."

The recent improvements to the existing road have been with the consent of SITLA (email from John Blake to Dave Shaver, September 17, 2008).

Findings:

The information provided meets the requirements for the post mining land use. ,

TOPSOIL AND SUBSOIL

Regulatory Reference: 30 CFR Sec. 817.22; R645-301-240.

Redistribution

Bear Canyon Gob Vent Holes

Section R645-301-511 of the amendment indicates that the Bear Canyon GVH will be in existence for the life of mine and will continue to operate, even during periods of temporary cessation.

Appendix 5-14, Attach. 8 describes a 23 ft. highwall backfilled to a slope that is 1.5h:1v. Backfill will come from the pad (842 cu yds) and will be placed in 18 – 24 inch lifts. Backfill will include boulders in the fill. All topsoil stored at the GVH topsoil site will be returned to the reclaimed area. Following the existing approved plans in Section R645-301-341 of the MRP which are also repeated in App. 5-14 and in Chapter 3, Section R645-301-320: the topsoiled area will be mulched with 2000 lbs/ac alfalfa hay mulch and fertilized if necessary. The surface will be roughened and seeded. A final application of 2000 lbs/ac of straw mulch and 500 lbs/ac of tackifier will be applied.

Findings:

The information provided meets the requirements for topsoil and subsoil replacement.

HYDROLOGIC INFORMATION

Regulatory Reference: 30 CFR Sec. 784.14, 784.29, 817.41, 817.42, 817.43, 817.45, 817.49, 817.56, 817.57; R645-301-512, -301-513, -301-514, -301-515, -301-532, -301-533, -301-542, -301-723, -301-724, -301-725, -301-726, -301-728, -301-729, -301-731, -301-733, -301-742, -301-743, -301-750, -301-751, -301-760, -301-761.

Analysis:

Appendix 5-14 describes the rotary drilling of the three holes (pg 12). Dimensions of the mud pits are provided as 30 ft. long X 10 ft. wide X 10 ft. deep. The location of the mud pits is at the south end of the pad area as shown on Appendix 1 of Appendix 5-14. Drilling fluid MSDS sheets are included in Attachment 15 of the Appendix 5-14. Due to petrochemical constituents and the proximity to an intermittent drainage, the drilling fluid will be removed from the drill site and disposed of at an approved land fill. Drill cuttings will be backfilled with approximately six feet of soil and the pad area will be utilized during operations.

Findings:

The information provided meets the requirements for acid/toxic information.

STABILIZATION OF SURFACE AREAS

Regulatory Reference: 30 CFR Sec. 817.95; R645-301-244.

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Analysis:

During operations, the 1h:1v cut slope will be roughened and seeded with the mix provided in Table 3-3 or the alternate East Mountain seed mix (Attach 13, App 5-14). Wood straw will then be scattered by hand over the surface.

The information provided in the application meets the requirements of R645-301-244 for soil stabilization.

RECOMMENDATIONS:

As noted below, four deficiencies remain unresolved with the amendment. Locating the Bear Canyon road on Map 1-0 should be addressed very quickly. DOGM management is working on a resolution to the deficiency concerning permitting of the right fork of Bear Canyon. The third and fourth deficiencies pertaining to the reclamation agreement and to the inclusion of soils laboratory data in the MRP, must conditions of approval.